NCDENR
North Carolina Department of Environment and Natural Resources
Division of Waste Management
Dexter R. Matthews
Director

Beverly Eaves Perdue
Governor

Dee Freeman
Secretary

July 31, 2009

Mr. William Kish, Operations Manager
McGill-Leprechaun at Merry Oaks, Chatham, NC
634 Christian Chapel Church Road
New Hill, NC 27562

Subject: McGill Environmental System at Merry Oaks
A Large Type-4 Solid Waste Composting Facility
Permit Application and Operations Manual
Facility Permit No.: SWC-19-06

Dear Mr. Kish:

The Division of Waste Management Solid Waste Section has completed its technical review of the subject Permit Application and Operations Manual. A copy of the comments resulting from this review is attached for your reference. These comments are also being sent to your engineer, Gary S. MacConnell, P.E., by copy of this letter. A revised Permit Application and Operation Manual that incorporate responses to these comments should be submitted for our review and approval as soon as possible. Providing thorough and complete responses to these comments in a timely manner is necessary to avoid delays of the Division's decision on the Permit Application.

If you or your engineer have any question or need assistance in resolving the technical review issues, please contact Mr. Zi-Qiang Chen, PhD, at (919)-508-8523. Also, you may contact me at (919)-508-8508.

Sincerely,

Michael E. Scott, Supervisor
Composting & Land Application Branch

ZQC:dr

Attachment (all cc's)

cc: Gary MacConnell, P.E., MacConnell & Asso., 1903 N. Harrison Ave., Cary, NC 27513
Bradley Bailey, NCDWM Field Operations Branch
Zi-Qiang Chen, Ph.D., Environmental Engineer II
DWM/SWS/CLA/PERMIT

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MCGILL AT MERRY OAKS

Technical Review Comments
For A Large Type-4 Solid Waste Composting Facility Permit Renewal Application
And
The Facility's Operations and Maintenance Manual
Facility Permit No.: SWC-19-06

July 31, 2009

NOTE: Please provide a response to all of the comments on a "comment for comment" basis. Where appropriate, add or revise narrative in the text of both the Permit Application (§) and the Facility's Operations & Maintenance Manual (§§) that addresses the issues discussed in the comments. In addition, the comments and responses may be included as a part of the revised Permit Application and Operations Manual (e.g. in an appendix).

I. General

1. A composting permit renewal application is a stand-alone document that shall reflect the facility's up-to-date engineering design and associated physical, environmental and administrative conditions. Therefore, provide a full-length Permit Application and Operations Manual that reflects and highlights all the changes proposed and different from the last approved Permit Application and Operations Manual.

2. Provide a Table of Contents for the permit application and operations manual, including the corresponding page numbers for all the chapters and section, as well as the appendices.

3. Rule .1401 (b) stipulates that plans for a large type-4 composting facility shall be submitted in accordance with Rule .0202(a)(3) and that a minimum of four copies of permit application and site drawings shall be submitted when the permit application and operations manual are finalized and ready to be approved.

4. In accordance with NCGS 130A-295.8(c), a large composting facility shall pay a fee of $1,250 for its permit renewal application.

II. Permit Application (§)

1. Page 1: 15A NCAC 13B .1405 (b) (5) stipulates that an application for a composting permit shall provide materials, such as:

a). An updated aerial photograph or scaled drawing to show the entire property; topographical contour lines; location of all homes, wells, road, buildings; and land use and zoning information.
b). Confirm that the site and design comply with Rule .1404.
c). Site plan(s) to show the location and elevation of dikes, trenches, water ways and control devices, local roads, monitoring wells, floodplains and wetlands etc.
d). Name, address, contacting phone number of the operator/operation.
e). Copies of all applicable and necessary local, state, and federal permits and approvals.

2. Page 1: Provide an update or a copy of McGill's application or permit for NC Division of Water Quality's stormwater permit.

3. Page 1: Provide an updated local zoning letter from Chatham County Planning & Development Department.

4. Page 3, §1.1: Specify the facility's design capacity.

5. Page 3, §1.2 and §1.3.3, and Drawing Sheet C-102: Per requirement of Rule .1404(a)(10)(C)&(E), provide the engineering design and construction information, such as the permeability testing result, and the post-construction monitoring and maintenance plan for the facility's curing pads.

6. Page 3, §1.3: Provide the engineering design and all *as-built* drawings of the facility's composting bays and stormwater / leachate retention pond(s). Specify how cracks or other structure damages of the concrete pad(s) are documented/reported, fixed, and tested in the operational phase.

7. Page 3, §1.3: Mark the facility's physical location on the updated aerial photo, show the adjacent (within the ¼-mile radiance) surroundings, and add the legend to denote these features and the *100-year* flood plan and other major hydro-geological features on the map. Confirm that the facility is not located within a *100-year* flood plain.

8. Page 4, §1.3.4, and Drawing Sheet c-102: Delineate the product storage bunkers on the drawing sheets.

9. Page 4, §1.3.5 – 1.3.6: Furnish the engineering design, construction and upgrading information of the biofilter and intake air plenum.

10. Clarify if there are seasonal variations in the incoming feedstocks in the facility. If so, provide a chart to show the monthly or seasonal variations of the incoming feedstocks.

11. Page 5, §1.3.7, and Page 15, §§2.6: Provide a typical mixing recipe (or the ingredients ratio) for the feedstocks listed in the facility's incoming feedstocks and demonstrate how McGill uses the recipes to process multiple feedstocks.

12. Page 5, §1.4: Clarify how and how often the monitoring equipments, such as temperature and/or moisture probes, are calibrated?

13. Page 5, §1.4: How often does the facility conduct its major equipment maintenance and/or maintenance overhaul? What is the typical length of time that such an overhaul takes?

III. Operations & Maintenance Manual (§§)

1. Page 15, §§2.6: Provide a fact sheet and process flow diagram that summarizes actual equipment sizing, aeration capacity, detention times, storage capacity, and waste flow rate for the system.

2. Page 16, §§2.6: Confirm that the cross-bay contamination between different batches of composting products does not take place during the facility's batch removal process?

3. Page 17, §§2.6: Provide engineering calculations to demonstrate that the capacity of the installed air-exchange units, such as intake and extraction fans/blowers and biofilter, are designed.

4. Page 18, §§2.6: Add more narratives regarding the BAT Odor Control System and provide the drawing and specification for the system.

5. Page 19, §§2.6:: Provide a narrative to specify how the facility complies with .1405(b)(6)(F) when operating during adverse weather conditions.

6. Page 21, §§2.6: Provide a detailed discussion in this section to address how to minimize offensive odor in the composting operation and at the property boundary and what kinds of corrective actions would be taken if an offensive odor crosses the property boundary.

7. Page 23, §§2.7: Provide the facility's curing capacity based on the layout of 24 windrows of 7' x 12'. Provide the preliminary engineering calculations.

8. Page 24, §§2.8: Include chromium (<1,200 mg/kg) in the testing parameters' list.

9. Page 26, §§2.9: Specify how the facility handle the compost products which do not meet with federal Class-A and/or Class-B standards, or fail to pass the U.S. Composting Council's STA tests.